

AMENDMENTS TO THE CLAIMS

This listing of claims supersedes all prior versions and listings of claims in this application:

LISTING OF CLAIMS:

1. (currently amended): A redundant system having two switch routes, comprising:

N, with N greater than or equal to one, ($N \geq 1$) input selectors,

N input lines,

wherein each N input selector of which selects one of two switch routes to connect N input lines to selected one of two switch routes, depending on a system switching signal;

wherein, two switch sections are provided, one for each respective one[[s]] of the two switch routes, each of the two switch sections having N input ports and N output ports, and comprising N buffers,

wherein each of which the N buffers comprises M ($M \geq 2$), with M greater than or equal to two, priority queues for storing input packets, received from N input selectors, classified under M priorities[[;]], and M priority output queues corresponding to respective ones of the M priorities;

an output selector for selecting a one of two M priority queues in a one of two switch sections for each of the M priorities corresponding to respective ones of the two switch sections

to store an output of the selected one of two M priority queues in a one of two switch sections into a corresponding one of the M priority output queues; and

a controller for instructing the output selector to select a one of the two priority queues for each of the M priorities corresponding to respective ones of the two switch sections depending on the system switching signal and a packet storing status of each of the M priority queues.

2. (currently amended): The redundant system according to claim 1, wherein when ~~the a~~ one of the two switch routes is switched to ~~the~~ an other switch route by the system switching signal, the controller monitors a packet storing status of each of the M priority queues and, if ~~the~~ a one of the two priority queues corresponding to respective ones of the two switch sections becomes empty, then the controller instructs the output selector to select the other of the two priority queues to store an output of the selected one of two M priority queues in a one of two switch sections into a corresponding one of the M priority output queues.

3. (original): The redundant system according to claim 2, wherein each of the switch sections further comprises:

a readout controller controlling a packet reading sequence of the M priority queues for each of the N buffers such that priority in packet reading is given to a higher priority queue.

4. (original): The redundant system according to claim 2, wherein the controller instructs the output selector to sequentially select the other of the two priority queues for each of the M priorities in descending order of priority.

5. (currently amended): A packet switching system having two switch routes, comprising:

N, with N greater than or equal to one, ($N \geq 1$) input selectors, each of which selects a one of the two switch routes to connect N input lines to the selected one depending on a system switching signal;

two switch sections, one provided for respective ones each of the two switch routes, each of the two switch sections having N input ports and N output ports and comprising N buffers, each of which comprises:

a high-priority queue for storing input packets having a high priority, received from N input selectors; and

a low-priority queue for storing input packets having a low priority, received from one of N input selectors;

a high-priority output selector for selecting a one of two high-priority queues corresponding to respective ones of the two switch sections;

a low-priority output selector for selecting a one of two low-priority queues corresponding to respective ones of the two switch sections;

a high-priority output queue for storing an output of the selected one of the two high-priority queues;

a low-priority output queue for storing an output of the selected one of the two low-priority queues; and

a controller controlling the high-priority output selectors and the low-priority output selectors of the two switch sections depending on the system switching signal and a packet storing status of each of the high-priority queues and the low-priority queues.

6. (currently amended): The packet switching system according to claim 5, wherein when the a one of the two switch routes is switched to the an other of the two switch routes by the system switching signal, the controller monitors a packet storing status of each of the high-priority and low-priority queues and, if the a one of the two high-priority queues corresponding to respective ones of the two switch sections becomes empty, then the controller instructs the a high-priority output selector to select the other of the two high-priority queues to store an output of the selected one high priority queue into the high-priority output queue.

7. (original): The packet switching system according to claim 6, wherein each of the switch sections further comprises:

a readout controller controlling a packet reading sequence of the high-priority and low-priority queues for each of the N buffers such that priority in packet reading is given to the high-priority queue.

8. (currently amended): The packet switching system according to claim 7, wherein the readout controller starts reading out the low-priority packets stored in the low-priority queue after all of the high-priority packets stored in the high-priority queue have been completely read out.

9. (original): The packet switching system according to claim 7, wherein the readout controller controls a packet reading sequence of the high-priority and low-priority queues for each of the N buffers such that m high-priority packets are read out from the high-priority queue and n low-priority packets are read out from the low-priority queue, wherein m is set to be greater than n.

10. (currently amended): A packet switching method in a packet switch having two switch routes and comprising

N, with N greater than or equal to one, ($N \geq 1$) input selectors, each of which selects one of the two switch routes to connect N input lines to the selected one switch route depending on a system switching signal[[;]],

two switch sections, one provided for ~~respective ones~~ each of the two switch routes, each of the two switch sections having N input ports and N output ports and comprising N buffers[[;]], and M, with M greater than or equal to two, priority output queues corresponding to respective ones of the M priorities, and

a controller for selecting a one of two priority queues;

the method comprising the steps of:

- a) distributing input packets, received from N input selectors, into M ($M \geq 2$) priority queues, which are classified under M priorities for each of the N buffers; and
- b) selecting, by a single controller, one of two priority queues for each of the M priorities corresponding to respective ones of the two switch sections to store an output of the selected one of two priority queues into a corresponding one of the M priority output queues, depending on the a system switching signal and a packet storing status of each of the M priority queues.

11. (original): The method according to claim 10, wherein the step (b) comprises the steps of:

when the one of the two switch routes is switched to the other by the system switching signal, monitoring a packet storing status of each of the M priority queues; and

when the one of the two priority queues corresponding to respective ones of the two switch sections becomes empty, selecting the other of the two priority queues to store an output of the selected one into a corresponding one of the M priority output queues.

12. (original): The method according to claim 10, further comprising the steps of:
at each of the switch sections,
reading input packets from the M priority queues for each of the N buffers such that
priority in packet reading is given to a higher priority queue.

13. (original): The method according to claim 10, wherein the step (b) comprises the
step of sequentially selecting the other of the two priority queues for each of the M priorities in
descending order of priority.

14. (currently amended): A method for controlling a packet switch having two switch
routes and comprising:

N, with N greater than or equal to one, ($N \geq 1$) input selectors, each of which selects one
of the two switch routes to connect N input lines to the selected one of two switch routes,
depending on a system switching signal;

two switch sections, one provided for ~~respective ones~~ each of the two switch routes, each
of the switch sections having N input ports and N output ports and comprising N buffers; and

M, with M greater than or equal to two, priority output queues corresponding to ~~respec-~~
~~tive ones of the M priorities~~ [,]; and

a controller for switching the two switch sections,

the method comprising the steps of:

- a) distributing input packets, received from N input selectors, into M ($M \geq 2$) priority queues, which are classified under M priorities, for each of the N buffers; and
- b) sequentially switching, by a single controller, between respective ones of two M priority queues for each of the M priorities corresponding to respective ones of the two switch sections to store an output of a selected one of two M priority queues into a corresponding one of the M priority output queues, in descending order of priority.